

## PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P16409W01</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/SE 2002/001325</b>	International filing date (day/month/year) <b>03.07.2002</b>	Priority date (day/month/year) ---
International Patent Classification (IPC) or national classification and IPC <b>H04L 27/38</b>		
Applicant <b>Telefonaktiebolaget LM Ericsson (publ) et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

- a.  (*sent to the applicant and to the International Bureau*) a total of 3 sheets, as follows:
- sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
  - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s))  
\_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). **EPO - DG 1**

4. This report contains indications relating to the following items:

- |                                     |   |                   |
|-------------------------------------|---|-------------------|
| <input checked="" type="checkbox"/> | Box No. I Basis of the report   | <b>01.11.2004</b> |
| <input type="checkbox"/>            | Box No. II Priority   |                   |
| <input type="checkbox"/>            | Box No. III Non-establishment of opinion with regard to <sup>(107)</sup> novelty, inventive step and industrial applicability   |                   |
| <input type="checkbox"/>            | Box No. IV Lack of unity of invention   |                   |
| <input checked="" type="checkbox"/> | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |                   |
| <input type="checkbox"/>            | Box No. VI Certain documents cited  |                   |
| <input type="checkbox"/>            | Box No. VII Certain defects in the international application  |                   |
| <input type="checkbox"/>            | Box No. VIII Certain observations on the international application  |                   |

Date of submission of the demand <b>13.01.2004</b>	Date of completion of this report <b>27.09.2004</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer <b>Markus Stålö/BS</b> Telephone No. +46 8 782 25 00

Form PCT/IPEA/409 (cover sheet) (January 2004)

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2002/001325

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished

the description:

pages 1-12 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* 1-3 received by this Authority on 10<sup>th</sup> of Aug. 2004

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages 1-10 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (specify): \_\_\_\_\_

any table(s) related to the sequence listing (specify): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (specify): \_\_\_\_\_

any table(s) related to the sequence listing (specify): \_\_\_\_\_

- \* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/SE 2002/001325

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	<u>1-14</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-14</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims	_____	NO

**2. Citations and explanations (Rule 70.7)****Prior-art**

In the International Search Report the following documents are cited:

D1: WO 9956442 A2  
D2: EP 0734132 A2  
D3: EP 1021019 A1  
D4: US 5684842 A  
D5: US 5796786 A

**Statement of reason**

The claimed invention relates to a method for a receiver receiving data. The data is transmitted in frames and each frame comprises symbols according to a first and second modulation method, and wherein the receiver uses a weighting function to an error signal for symbols coded according to the first modulation method, the error signal being indicative of the deviation of the detected symbol value from an expected reference symbol value.

The amended claims filed with the letter of 10.08.2004 differ from the claims originally filed in that the features of the weighting function are now added to independent claim 1.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: Box V

Documents D1-D3 disclose methods to convey information in a frame according to a first and second keying method and documents D4-D5 disclose the usage of a weighting function.

However, none of these documents disclose a method of weighting an error signal in a receiver according to a special weighting function, wherein the received data is transmitted in a frame comprising symbols coded according to a first and second keying method, as defined in present claim 1.

Further, it is not considered obvious to a person skilled in the art to change the method of any of the above mentioned documents so as to reach a method or apparatus as the one claimed in the present application.

The invention according to amended claims 1-14 is thus novel and is considered to involve an inventive step.